Fire Rehabilitation Plan for Old 730 Highway Fire (#13580-9261-1429)

1. Background

The Old Highway 730 fire occurred July 18-22,2000 on the McCormack Unit of Urn at ilIa National Wildlife Refuge on the south side of the Columbia River east of Boardman, Oregon in Morrow County. A total of 1047 acres were burned. The fire was human-caused and may have been arson.

Area climate is arid with approximately nine inches of rainfall annually. Summers are hot (highs about 85-100 ?) and dry (minimum relative humidity in the teens). This area is subjected to strong winds (averaging 10 mph while the average maximum wind speed is 25 mph) throughout the season. Prevailing winds are from the southwest.

Topography is rolling and contains many hummocks. Soil types are Quincy loamy fine sand, Winchester sand and Royal loamy fine sand. The potential for wind erosion is high for these soils. A ridge of dune land, which is very susceptible to wind erosion, extends into the area from the west. Vegetation prior to the fire primarily consisted of shrub-steppe dominated by rabbitbrush, bitterbrush, and big sagebrush shrubs with an understory of native and exotic grasses. Cottonwood trees were the dominant feature closer to the Columbia River. Some native willows and non-native false indigo shrubs and Russian olive trees were also part of the riparian zone. The dune lands contained some shrubs and grasses but were largely unvegetated.

The fire intensity was high. The fire was pushed along by 20-30 mile per hour winds resulting in flame lengths reaching 20 feet. The shrub-steppe was heavily damaged by the fire. Most sagebrush plants were consumed. These shrubs will not resprout. Most bitterbrush and rabbitbrush shrubs were also consumed. A survey conducted on September 13,2000 revealed that a few of these shrubs have begun to resprout, however, the majority had not. Some of the bunchgrasses may have survived, however, this was not evident during the September 13 survey. Cheatgrass had already gone to seed and is expected to sprout this fall. Many cottonwoods of varying sizes were severely damaged and may have succumbed. Invasive perennial pepperweed and false indigo plants in the riparian area have resprouted vigorously.

The burned area is open to public access during the hunting season. Old highway 730 and an adjacent gravel road are opened up on designated hunt days to allow hunter access to parking areas and waterfowl blinds. Vehicles are prohibited on the remainder of the area. A 3/4 mile section of boundary fence was destroyed during the fire leaving the area open to unauthorized vehicle use. Some unauthorized vehicle use has already occurred.

The area was populated by a variety of animals, including, badgers, coyotes, migratory and resident raptors and songbirds, small rodents, and reptiles. The area was heavily used by resident mule deer. Bald eagles utilized the cottonwoods for roosting and perching during the winter.

2. Evaluation and Analysis

Removal of vegetative cover exposes the surface to wind and water erosion. Strong gusty winds are common in the area. The area's very sandy soil and rolling topography increase the potential for erosion. Vehicle track damage from fire suppression activities is relatively widespread across the area and damage is heavy in a few locations. A fire line was bulldozed around part of the fire perimeter. A 3/4 mile boundary fence was cut to facilitate suppression and many heavy duty wooden fence posts were burned. This area is now partially open to unauthorized vehicle use. These sandy soils are extremely fragile, and any disturbance opens an avenue for exotic/noxious weed invasions. Seeding damaged areas with native grasses and shrubs would provide a locally adapted group of plants that would help to replace lost habitat, protect the area from wind erosion and help to displace the undesirable cheatgrass and broadleaf weeds.

3. Rehabilitation needs and objective

A "no action" alternative would allow normal post-fire community development. This would leave a large portion of the area exposed to wind and water erosion.

The former shrub community is unlikely to develop. Burned sagebrush shrubs will not resprout and the natural seed source in the adjacent non-burned area is very limited. The interior of the area likely will not reseed naturally with sagebrush. A few bitterbrush shrubs are re-sprouting, however it appears that many may not have survived. Bitterbrush is an important source of forage for the resident mule deer. Natural seed sources are available adjacent to the burned area and may help to provide for some reestablishment of bitterbrush. Sufficient recovery of bitterbrush, however, may not be achieved naturally. Rabittbrush is more fire tolerant and will likely be the dominant shrub for many years resulting in low shrub species diversity. Further, we anticipate that cheatgrass and broadleaf weeds will invade much of the site initially and would inhibit or prevent further native plant recovery.

We propose to revegetate 150 acres of the burned area. We will target areas particularly vulnerable to wind erosion and weed infestation, such as areas damaged by vehicle tracks or other firefighting activities. We would begin by treating these areas in early November with Roundup@ to control germinating cheatgrass. A native grass seed mixture would be seeded 7-10 days later in the upland area. We will avoid any planting in the dunes to reduce any further disturbance. By planting in the fall we should be able to take advantage of winter and spring precipitation. Cottonwoods and willow cuttings will be planted in the riparian area in late fall. The following spring and summer, we will treat broadleafweeds (including perennial pepperweed in the riparian area) with the appropriate herbicide. Sagebrush and bitterbrush seedlings will be planted in the upland during the second fall. We will replace boundary fencing and posts to prevent unautho~ized vehicles from causing more habitat degradation.

4. Environmental Considerations

We expect the cheatgrass to germinate in October and November. Seeding with native plants needs to be early enough in the winter to allow germinating plants to utilize the moisture and become established before the summer dormant season. The use of herbicide is the most efficient and effective means of preventing the spread of weeds while permanent cover is being

established. The size and hummocky nature of the area preclude a large reseeding effort. Replanting part of the area to natives should help natural seed dispersal.

A draft Fire management Plan was submitted to the Regional Office in July 1999. This Rehabilitation Plan is commensurate with the draft Fire Management plan.

Summary of anticioated Resource Needs and Costs

Projected Rehabilitation costs

Seed Mix
Sand Dropseed 1 lb/acre
Critana Thickspike Wheatgrass 2 lb/acre Sandberg's Bluegrass 3 lb/acre

Total seed cost (6Ibs/acre @ $8.58/lb x 150 acres)	$7722
Sagebrush seedlings (1000@$.90 ea.)	900
Bitterbrush seedlings (1000)@$.90 ea.)	900
Labor (planting and fence repair) (120 hours@$25/hr)	3000
Herbicide spraying (40 hours @ $60/hr)	2400
Herbicide 1500 Contingencies (increase in seed cost)	100
Replace fencing (3/4 mile of fencing, 20 railroad tie posts)	5000
Total Project Cost	$21522

Photo documentation stored in project files.